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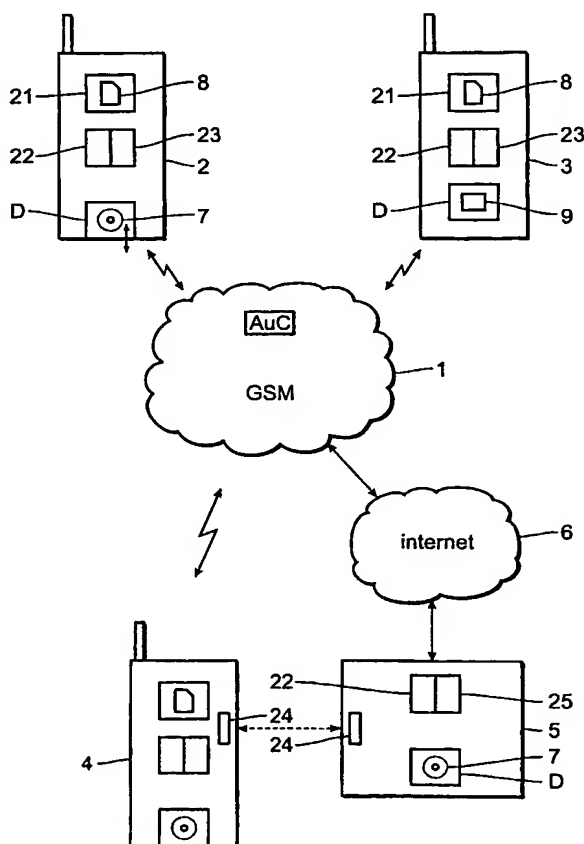
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[Continued on next page]

(54) Title: MOBILE NETWORK AUTHENTICATION FOR PROTECTING STORED CONTENT



(57) Abstract: The present invention relates to a method of protecting content stored on a storage medium (7) against unauthorized access, said storage medium (7) being accessible by a drive (D) of a portable device (2) which is connectable to a network (1). In order to provide a high level of protection against unauthorized access it is proposed to use the authentication procedure of the network (1) to generate a cryptographic key (ck) for encryption and decryption of content stored on said storage medium (7). In particular, the present invention is used in a mobile phone network where the authentication key (ak) is stored on a SIM card (8) used in a mobile phone (2).

**Declaration under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU,

TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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# INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	<p>EP 0 644 474 A (UNIV SINGAPORE) 22 March 1995 (1995-03-22)</p> <p>abstract page 1, line 1 - line 17 page 1, line 43 - line 58 page 5, line 15 - line 35 figures 6A, 7A</p> <p style="text-align: center;">--- -/-</p>	<p>11, 13</p> <p>1-10, 12, 14, 15</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01 41356 A (HATAKEYAMA TAKAHISA ; SANYO ELECTRIC CO (JP); YOSHIKAWA TAKATOSHI ( ) 7 June 2001 (2001-06-07) abstract	1-15
P,A	-& EP 1 237 324 A (SANYO ELECTRIC CO; FUJITSU LTD (JP); HITACHI LTD (JP); PFU LTD (JP)) 4 September 2002 (2002-09-04) abstract column 2, line 26 -column 3, line 34 column 6, line 43 -column 8, line 51 figure 1	
A	EP 1 120 934 A (VICTOR COMPANY OF JAPAN) 1 August 2001 (2001-08-01) abstract column 2, paragraph 13 column 7, paragraph 31 column 12, paragraph 52 - paragraph 54 figure 1	1-15
A	EP 1 011 222 A (FUJITSU LTD) 21 June 2000 (2000-06-21) abstract column 2, paragraph 8 -column 3, paragraph 19 figure 2	1,11-13, 15
A	US 2001/039620 A1 (HONKALA JANNE ET AL) 8 November 2001 (2001-11-08) abstract; figure 1	1,11-13, 15
A	WO 02 47080 A (SANDISK CORP) 13 June 2002 (2002-06-13) abstract; figure 8A	12-14

## INTERNATIONAL SEARCH REPORT

PCT/IB 03/03434

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0644474	A	22-03-1995	US 5412718 A	02-05-1995
			DE 69412196 D1	10-09-1998
			DE 69412196 T2	08-04-1999
			EP 0644474 A1	22-03-1995
			SG 46304 A1	20-02-1998
WO 0141356	A	07-06-2001	AU 1557401 A	12-06-2001
			CN 1433608 T	30-07-2003
			EP 1237324 A1	04-09-2002
			WO 0141356 A1	07-06-2001
			TW 493333 B	01-07-2002
			US 2002184154 A1	05-12-2002
EP 1120934	A	01-08-2001	JP 2001211442 A	03-08-2001
			CN 1307417 A	08-08-2001
			EP 1120934 A2	01-08-2001
			US 2001011251 A1	02-08-2001
EP 1011222	A	21-06-2000	JP 2000181803 A	30-06-2000
			EP 1011222 A2	21-06-2000
US 2001039620	A1	08-11-2001	EP 1168185 A2	02-01-2002
WO 0247080	A	13-06-2002	AU 3065802 A	18-06-2002
			AU 3249402 A	18-06-2002
			US 2002176575 A1	28-11-2002
			US 2002186842 A1	12-12-2002
			WO 0247080 A2	13-06-2002
			WO 0247081 A2	13-06-2002